

Jefferson Abraham Dermawan

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EDUCATION

University of British Columbia

Bachelor of Science, Computer Science — Option in Artificial Intelligence | GPA: 4.10/4.33

Vancouver, BC

Expected May 2028

EXPERIENCE

Software Engineer Intern

Bank Central Asia

May 2026 – August 2026

Jakarta, ID

- Developed **i-CRU**, an internal enterprise application using **Java / Spring Boot** to automate mortgage customer request processing, replacing manual Excel-based workflows at **Indonesia's largest private bank**
- Modeled maker-checker approval as an audited state machine with role-based access control and transactional JPA writes, sustaining **5,000+** requests in production without dual-approval race conditions
- Automated document generation and request routing across the service layer, cutting turnaround by **67%**

Backend Engineer

LintelAi

January 2026 – April 2026

Vancouver, BC

- Built **asynchronous FastAPI** services on Python **asyncio** to orchestrate **multi-agent LLM triage** of maintenance requests, sustaining **100+ concurrent** tenant sessions with non-blocking vendor dispatch
- Shipped real-time token streaming over **SSE/WebSockets** and enforced **Pydantic** schema validation on LLM outputs, cutting time-to-first-token to **1s** while eliminating hallucinated work orders and pricing
- Designed stateful agent session persistence in **PostgreSQL**, enabling long-running procurement workflows to pause for vendor responses and resume with full context across multi-day repair cycles

Software Development Lead

UBC Aerodesign

September 2025 – Present

Vancouver, BC

- Developed full-stack ground control station streaming real-time telemetry (altitude, airspeed, GPS, battery) over **WebSockets**, visualizing sensor health and flight path deviation for operators during autonomous missions
- Deployed **computer vision** pipeline on onboard **Jetson** compute, running inference on live video to detect ground targets and trigger payload release compensating for aircraft velocity and altitude
- Wrote **C++** firmware for flight controller microcontrollers, implementing **Kalman filter** sensor fusion across accelerometer, gyroscope, and barometer to estimate attitude and drive servo control loops

Undergraduate Teaching Assistant - CPSC 121

University of British Columbia

September 2025 – April 2026

Vancouver, BC

- Mentored **110+** students during lectures and weekly labs, teaching discrete math and propositional logic

PROJECTS

Slipstream | TypeScript, React, Three.js, Web Workers, Vite

April 2026

- Packed 60 min of multi-car race telemetry into a columnar binary format at **8 bytes/sample**, 18 MB to **7.35 MB**
- Rebuilt car's path from noisy **3.5 Hz GPS** using time-uniform **Catmull-Rom splines**, decoded in **Web Worker**
- Answered race questions via **Claude** agent computing gaps, stints, and pace from the replay engine at query time

Find My Force | Python, PyTorch, Scikit-Learn, SciPy, Flask, Socket.IO

March 2026

- Built a full RF common operating picture in 36 hours, placing **2nd of 100 teams** and winning **\$6,000**
- Fused **1D-CNN** and 42 spectral features into a gradient-boosting ensemble with **one-class SVM** detection
- Localized emitters via **TDoA** multilateration and RSSI trilateration, fused and smoothed by a **Kalman filter**

Argus | Python, LangGraph, Next.js, TypeScript, Docker

February 2026

- Scanned public repos for vulnerabilities with 4 specialist **LLM** analyzers fanned across a bounded thread pool
- Streamed findings to the browser live over **SSE**, relaying a spawned **LangGraph** subprocess without a 2nd server
- Beat **Semgrep** baseline at **4x recall** on a held-out labeled dataset, scored multiple runs with mean and spread

TECHNICAL SKILLS

Languages: C/C++, Java, Python, Go, TypeScript/JavaScript, Kotlin, Swift, SQL, Rust, R

Frameworks: Spring Boot, FastAPI, Flask, Node.js, Express, React, React Native, Angular, Next.js, Django **ML**,

Data & Cloud: PyTorch, OpenCV, pandas, NumPy, PostgreSQL, MongoDB, Redis, Firebase, AWS, Docker